U.S. Department of Transportation

Intelligent Transportation Systems Standards Fact Sheet

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NTCIP 1202 National Transportation Communications for ITS Protocol (NTCIP) – Object Definitions for Actual Traffic Signal Controller Units

Originally published as NEMA TS 3.5-1996

Overview

The National Transportation Communications for ITS Protocol (NTCIP) is a family of standards that provides both the rules for communicating (called protocols) and the vocabulary (called objects) necessary to allow electronic traffic control equipment from different manufacturers to operate with each other as a system. The NTCIP is the first set of standards for the transportation industry that allows traffic control systems to be built using a "mix and match" approach with equipment from different manufacturers. Therefore, NTCIP standards reduce the need for reliance on specific equipment vendors and customized one-of-a-kind software. To assure both manufacturer and user community support, NTCIP is a joint product of the National Electronics Manufacturers Association (NEMA), the American Association of State Highway and Transportation Officials (AASHTO), and the Institute of Transportation Engineers (ITE).

The NTCIP family of standards is a joint project of the following standards development organizations:

American Association of State Highway and Transportation Officials (AASHTO)

Institute of Transportation Engineers (ITE)

National Electrical Manufacturers Association (NEMA)

(Contact information is shown at the end of this fact sheet)

To obtain a copy of this standard, please contact:
Global Engineering Documents
Web site: http://global.ihs.com

Publication Date: November 1997

Human communications relies on a vocabulary of words, each defined with a fixed meaning and spelling that are understood by the members of the conversation group. Computers have a similar vocabulary, called "objects" in the NTCIP standards. These objects define all possible commands, responses and information that may be exchanged among microprocessor-controlled electronic equipment, a central computer, and by extension, their human operators. The NTCIP groups these objects by subject material (e.g., actuated signal controllers) and calls these groupings "object definitions." The objects defined in this standard allow an operator to command an actuated signal controller to do something and verify that the controller has accomplished the command.

What is this standard for?

This standard, **NTCIP 1202, NTCIP - Object Definitions for Actuated Traffic Signal Controller Units**, provides the vocabulary—commands, responses and information—necessary for traffic management and operations personnel to control, manage, and monitor Actuated Traffic Signal Controller Units. It contains object definitions to support the functionality of actuated traffic signal controller units used for transportation and traffic control applications. The standard includes conformance group requirements and conformance statements to support compliance with the standard.

Who uses it?

This standard should be used by transportation and traffic engineers involved with the design, specification, selection, procurement and installation, operation, and maintenance of actuated traffic signal controller units. ITS product hardware and software designers and application (computer program) developers should find this standard especially relevant to their efforts.

How is it used?

This standard defines a vocabulary of "objects" used to assure that the transportation management center computer-based devices, and actuated traffic signal controller units "speak" a common language. A message must be understood by the device it was intended for, and equally important, it must not be misunderstood or misinterpreted by another device on the same

network. Object definitions unambiguously define the content, terminology, value and format of commands, responses and information affecting communications with actuated traffic signal controller units.

This standard must be used with one of the NTCIP communications profiles (NTCIP 1101, NTCIP 2001, etc.) which provide the communications channel for information transfer between devices. It must be used with the NTCIP Global Object Definitions (NTCIP 1201), which provides the glossary of common object definitions used by multiple NTCIP traffic control devices.

Scope

Communications between a transportation management center's central computer and actuated traffic signal controller units are accomplished by using the objects defined in **NTCIP 1202, NTCIP - Object Definitions for Actuated Traffic Signal Controller Units**. These objects define the information, commands and responses that must be understood by the devices at both ends of the communications channel.

Related documents

To accommodate the broad scope of this standardization effort, the NTCIP standard has been divided into several individual standards. A detailed list of related documents is available on the **NTCIP 9001, NTCIP Guide** fact sheet.

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